# Bay Delta Conservation Plan Overview

October 25, 2011

### The Legal Delta:

738,000 acres ~ 60 islands/tracts 1,115 miles of levees

- ¬ 3 State Highways
- ¬ Major Rail Lines
- Major Water and Natural Gas Pipelines
- ¬ 1 Critical Natural Gas Reservoir
- 2 Deep Water Ports
- Major Power
   Transmission Lines



# BDCP Importance of the Delta to California

BAY DELTA CONSERVATION PLAN

### **Water Supply**

- •25 million Californians
- •3 million acres of agriculture
- •\$400 billion of annual economic activity

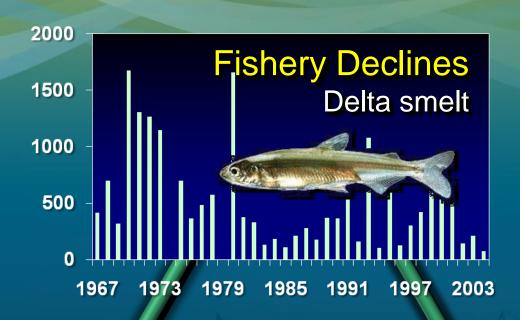
#### **In-Delta Land Use**

- •558,000 acres in agricultural production
- 64,000 acres of urban and commercial development

#### **Environment**

- •Confluence of California's two largest watersheds (Sacramento River and San Joaquin River)
- More than 750 plant and animal species
- More than 40 threatened or endangered species

# **Key Delta Risks**

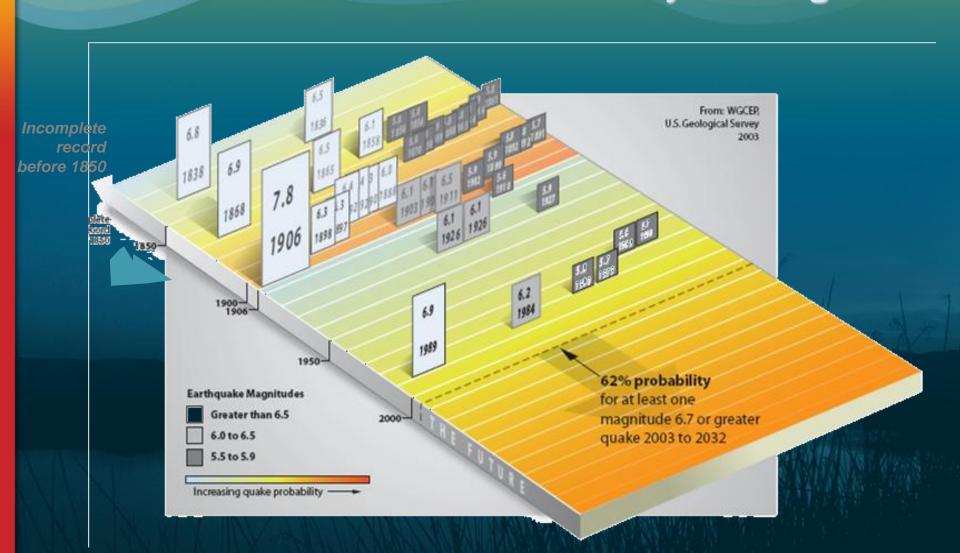






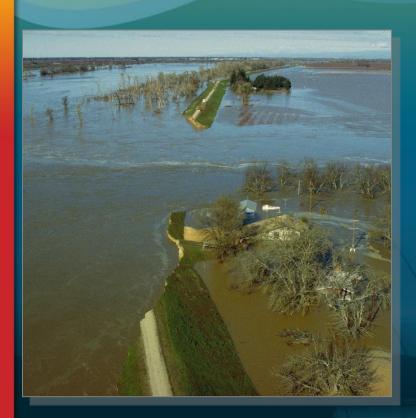
# Seismic Challenges

### Past and Future Seismic Events in the Bay-Delta Region



BDCP
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## Potential for Flooding



Jones Tract Levee Breach - 2004 In 1997 there were 11 levee failures in the Delta

**View of Levee Repair** 



### BDCP BAY DELTA CONSERVATION PLAN

# WHAT IS BDCP?

Multiple Species, Contribute to Long-Recovery

Conservation Strategy Aspects of Implementation

Conservation Plan

WATER SUPPLY RELIABILITY

FCOSYSTEM RESTORATION

**ESA-HCP** 

NCCPA-NCCP

# Importance to Long-term Solution

Comprehensive ecosystem approach provides best opportunities to recover fisheries and assure water supplies

Better separates water delivery system from the Delta estuary

Restores tens of thousands of acres of tidal marsh and flood plain habitat

Improves Delta flows through greater operational flexibility

Considers the many other stressors impacting fish populations - predation, invasive species, pesticides, toxins

#### **BDCP**

BAY DELTA CONSERVATION PLAN

# WHO'S INVOLVED?

- Department of Water Resources
- US Bureau of Reclamation
- Santa Clara Valley Water District
- Kern County Water Agency
- Metropolitan Water District of Southern California
- San Luis & Delta-Mendota Water Authority
- Mirant Energy
- Westlands Water District
- Zone 7 Water Agency

Potentially Regulated Entities (PREs)

- American Rivers
- Defenders of Wildlife
- Environmental Defense Fund
- Natural Heritage Institute
- The Bay Institute
- The Nature Conservancy

**Environmental** Organizations

US Army Corps of Engineers

- US Fish and Wildlife Service
- CA Department of Fish and Game
- National Marine Fisheries Service
- State Water Resources Control Board

Regulatory Agencies

Other Organizations

- Delta Stewardship Council
- North Delta Water Agency
- California Farm Bureau Federation
- California Resources Agency
- Contra Costa Water District
- Friant Water Authority

# COVERED SPECIES

DELTA SMELT LONGFIN SMELT

CHINOOK SALMON

winter, spring, fall and late fall

GREEN AND WHITE STURGEON









CENTRAL VALLEY STEELHEAD



SACRAMENTO SPLITTAIL



APPROXIMATELY
50 TERRESTRIAL
SPECIES





### BDCP

### AQUATIC CONSERVATION MEASURES

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# BIOLOGICAL GOALS & OBJECTIVES FOR COVERED FISH SPECIES

Improve survival
Improve fitness
Improve distribution
Improve growth rate

Decrease mortality

### HABITAT RESTORATION CONSERVATION ACTIONS

Phytoplankton and zooplankton (fish food) Spawning and rearing

### OTHER STRESSORS CONSERVATION ACTIONS

Reduce contaminants
Reduce predation effects
Improve fish passage
Reduce Disease
Reduce non-natives

### WATER OPERATIONS CONSERVATION ACTIONS

Improve water quality
Reduce entrainment
Improve water flow and
habitat conditions

# BDCP DRAFT CONSERVATION STRATEGY - MAJOR ELEMENTS

BAY DELT

#### **HABITAT RESTORATION**

Up to 80,000 acres tidal marsh, riparian, and floodplain

Enhanced floodplain in the Yolo Bypass-temporary inundation

20-40 linear miles channel restoration

Up to 45,000 acres of terrestrial habitat

### WATER FACILITIES & OPERATIONS

North Delta diversion

- · Up to 5 intakes
- Up to 15,000 cfs design capacity
- Pipeline/tunnel subject of focused study in BDCP
- Establish minimum flows to ensure healthy habitat and water quality
- Minimize reverse flows
- Provide freshwater outflow
- Maintain water quality standards
- Manage operating rules for flows at Delta Cross Channel
- Manage operating rules for flows at Rio Vista

#### **OTHER STRESSORS**

Minimize methyl mercury

Control non-native aquatic plants

Reduce illegal harvest

Establish hatchery and genetic management plans

Support Delta and longfin smelt propagation programs

Reduce predators

Construct non-physical barriers to re-direct juvenile salmonids

Improve dissolved oxygen levels in the Stockton Deep Water Ship Channel

### **Current BDCP Efforts**

- ICF initiating effects analysis that uses scientific modeling to predict the impacts of the conservation measures on biological resources.
  - Draft Conceptual Foundation and Analytical Framework is a road map
  - Draft Entrainment Appendix to be viewed as an example of application of methods

- Your review will help us guide Effects Analysis
  - Will also assist with the overall BDCP

#### BDCP BAY DELTA CO

# **BDCP Outline**

- **Chapter 1.** Introduction
- **Chapter 2.** Existing Ecological Conditions
- **Chapter 3. Conservation Strategy**
- **Chapter 4.** Description of Covered Activities
- **Chapter 5.** Assessment of Impacts and Level of Take
- **Chapter 6.** Plan Implementation
- **Chapter 7.** Implementation Structure
- **Chapter 8.** Implementation Costs and Funding Sources
- **Chapter 9.** Alternatives Considered and Rejected
- **Chapter 10.** Independent Science Advisory Process
- **Chapter 11.** List of Preparers
- **Chapter 12.** References Appendices

- **3.1** Introduction
- **3.2** Biological Goals and Objectives
- 3.3 Approach to
  Conservation: Overview
  of Key Conservation
  Measures and Their
  Integration
- **3.4** Conservation Measures
- **3.5** Monitoring Plan
- **3.6** Adaptive Management Program
- 3.7 Summary of the Approach to Minimization and Mitigation of Effects
- 3.8 Summary of Expected
  Outcomes for Covered
  Species and Natural
  Communities

#### BDCP Chapter 5 (Effects Analysis) Schedule 8/9/11

Task	Date to Agencies	Review Complete
BDCP: Chapter 5: Conceptual Foundation & Analytical Framework		
Technical Appendix (Conceptual Foundation)	8-Aug-11	24-Aug-11
Technical Appendix (Analytical Framework)	8-Aug-11	24-Aug-11
BDCP: Chapter 5: Entrainment		
Technical Appendix (Entrainment)	24-Aug-11	14-Sep-11
Delta Science Review (C. Foundation, A. Framework, Entrainment)	15-Sep-11	14-Oct-11
BDCP: Chapter 5: Flow, Passage, & Salinity		
Technical Appendix (Flow, Passage & Salinity)	30-Sep-11	21-Oct-11
BDCP: Chapter 5: Water Quality		
Technical Appendix (Water Quality)	14-Oct-11	4-Nov-11
BDCP: Chapter 5: Fish Population Analysis		
Technical Appendix (Fish Population Analysis)	25-Nov-11	16-Dec-11
BDCP: Chapter 5: Habitat Restoration		
Technical Appendix (Habitat Restoration)	16-Dec-11	6-Jan-12
BDCP: Chapter 5: Ecological Effects		
Technical Appendix (Ecological Effects)	16-Dec-11	20-Jan-12
BDCP: Chapter 5: Appendix - Analysis Not Used		
Technical Appendix (Analysis Not Used)	16-Dec-11	6-Jan-12
BDCP: Chapter 5: Terrestrial Species Analysis		
Technical Appendix (Terrestrial Species Analysis)	16-Nov-11	16-Jan-12
BDCP Chapter 5 (Roll-up)		
Agency and Delta Science Review	27-Feb-12	27-Mar-12
BDCP Chapter 5 (Effects Analysis)		
Chapter 5 Complete	9-Apr-12	

The EIR/EIS will evaluate the effects of the conservation plan on both the natural (biological) and the human environment. This will include addressing impacts to:

- Cultural Resources
- Archaeological Resources
- Recreation
- Tourism
- Air Quality
- Water Quality
- Climate Change

- Economics
- •Hazardous materials
- Utilities
- Local Communities
- •Environmental Justice
- •And more...

#### **BDCP**

# ENVIRONMENTAL REVIEW PROCESS

BAY DELTA CONSERVATION PLAN

#### Proposed Action: Bay Delta Conservation Plan

